

REMARKS

The present application now contains claims 1-20, 30-55, 66-70 and 75-78. Claims 21-29, 56-65, 71-74 and 79 were cancelled in order to concentrate the application on a single patentable issue. Claim 1 was amended. Claims 43-46 were allowed.

The rejection of claim 79 under 35 U.S.C. 112 is moot due to the cancellation of the claim together with its parent claim.

Claims 1-36, 47-79 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Subramaniam (US patent 5,859,972) in view of Inga (US patent 5,416,602).

Claims 37-40 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Subramaniam (US patent 5,859,972) in view of Inga (US patent 5,416,602) and further in view of Ward (US patent 5,793,735).

Claims 41-42 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Subramaniam (US patent 5,859,972) in view of Inga (US patent 5,416,602) and further in view of Hirabayashi (US patent 6,101,282).

Claim 1 was amended for clarity and emphasis.

Claim 1 requires:

- (a) receiving from the server image reconstruction software for the user's computer;
- (b) progressively transmitting the requested specific image data over the network from the server to user's computer; and
- (c) repeatedly reconstructing images, from the progressively received image data, at different quality levels, using the reconstruction software on the user's computer.

According to the Examiner, Subramaniam describes (a) and Inga describes (b) and (c) and it would have been obvious to combine the receiving of reconstruction software of Subramaniam with the progressive transmitting of image data of Inga.

Applicants respectfully traverse the rejection and state that the Examiner has not established a *prima facie* case of obviousness, since the Examiner has not shown a proper reasoning to combine Subramaniam with Inga.

In a broader view of the prior art, two groups of references should be related to.

A first group of references relates to use of JAVA applets. These references include:

D1 = Subramaniam (US patent 5,859,972), which suggests, on column 11, lines 38-47, using helper applications implemented with JAVA. According to col. 9, lines 44-46, the helper

applications are used either to display data that the browser is incapable to display or to place data in a secondary application for manipulation.

D2 = "A WWW-based distributed system for medical data analysis and 3D reconstruction", Bitti et al., which describes a medical visualization system in which when a user requests an image, an applet is downloaded. Once the download of the applet is concluded, the applet is run on the client computer and the client selects image data to be displayed and/or visualization options. D2 acknowledges the need to reduce un-necessary traffic and suggests exploiting as much as possible the capabilities of the client-side computer in order to reduce the traffic (page 346, last paragraph).

D3 = "Using Netscape 2" describes using a Java applet for new data formats, such as a new compression method (page 893).

D4 = "The JAVA language environment", A white paper, James Gosling and Henry McGilton, which describes the use of Java applets for additional types of data and behavior .

A second group of references relates to progressive transmission. This group includes, for example:

D5 = US patent 5,416,602 to Inga et al., which describes a medical image system with progressive resolution.

D6 = Interactive image query system using progressive transmission, F. S. Hill, et al., Computer Graphics, July 1983.

The prior art of record on Java applets, D1-D4, suggests using Java applets in order to extend the data formats that can be accessed by clients (e.g., a new compression method) and/or to reduce the processing performed on the server by transferring some of the processing to the client, in a Java applet.

None of D1-D4 mentions the possibility of using a JAVA applet or other software received from the server for progressive transmission. This is not accidental. Progressive transmission is not intended to allow the client to view images in a new format and is not intended to transfer processing tasks to the client. Rather, progressive transmission is directed at achieving a quick response time, by providing intermediate results which are rendered before all the information is received. Progressive transmission does not reduce the total transmission capacity, but rather increases the capacity.

Progressive transmission or any other attempt to achieve a fast response time was not taught or suggested by any of the art relating to a Java applet. The transmission of a Java applet which performs progressive transmission is not obvious in view of the art, because the

transmission time of the Java applet increases the response time, counter to the desired result of reducing the response time.

The prior art on progressive transmission, D5-D6, does not teach or suggest providing the software required for the progressive transmission remotely. In fact, the opposite is the case. D5 specifically requires dedicated client systems that include dedicated hardware, as mentioned on col. 5, lines 46-52 and in Fig. 6 and its description on column 16, lines 42-68. A reader of the prior art on progressive transmission would not consider implementing progressive transmission using a Java applet or other software received from the server for the reasons mentioned above that the time of transmission of the Java applet would incur a delay which is counter to the advantage from the progressive transmission.

Relating specifically to the Examiner's rejection, it would not be obvious to provide the image reconstruction software of Inga to the client using the method of Subramaniam, since this would be counter to the goal of the software of Inga. The software of Inga is directed at fast communicating of image files to remote locations both cost effectively and within a reasonable time interval (abstract, col. 5, lines 9-11). The telecommunication means 18 of Inga are directed at achieving useful data image transmission in less than one minute (col. 12, lines 26-28). The combined compression technology of Inga is claimed to reduce data transmission time (at 9600 baud) to approximately 43 seconds for an initial useful medical image. Transmitting the reconstruction software over a 9600 baud connection would substantially lengthen the time until an initial useful medical image is displayed. Combining Inga to Subramaniam would substantially lengthen the transmission time until an initial image is displayed.

It is noted that a software of 50K would just about double the time required until an initial image is displayed. Although applicants cannot accurately estimate the size of the software that needs to be run on the terminals of Inga, they are quite large. This is because, as stated on column 5, line 34, the compression methods of the software are considered complex, and the software includes all the technologies listed on col. 5, lines 20-26. Sizes of various Java applets, which can be used for comparison, are discussed, for example, at http://www.freewarehome.com/Programming/Java_Applets_t.html, which was provided with the previous response filed by applicants.

In the response to applicants arguments on page 4, the Examiner stated that the benefits of progressive transmission would be beneficial to Subramaniam because it is desired to conserve bandwidth. In response, applicants note that progressive transmission is not directed

at conserving bandwidth (in fact it increases the bandwidth) but rather is directed at reducing the response time by providing partial results. It would not be obvious for Subramaniam to consider using progressive transmission because Java applets were not considered useful to reduce delay, as discussed above.

The dependent claims are patentable at least because they depend on an allowable claim. Nonetheless, at least some of the claims add further patentability over the prior art. Claim 2, for example, requires processing the reconstructed image using the reconstruction software. Having the reconstruction software process the image in addition to managing the reconstruction makes the software that needs to be transmitted to the client even larger and hence makes the initial delay until an image is displayed, even longer. Therefore, even if it would have been suggested to use a Java applet for progressive transmission, it would not be obvious to add processing software to the applet.

In view of the above remarks, the claims are believed to be allowable. A notice of allowance is respectfully awaited. In the event that the Examiner cannot issue such a notice and the Examiner is of the opinion that a telephone conversation can advance the application toward allowance, the Examiner is respectfully requested to call the undersigned at (toll free) +1 (877) 428-5468. This telephone connects directly to the undersigned's office in Israel, which is 7 hours ahead of Washington. Our normal work week is Sunday through Thursday and the undersigned is generally available until 11:00 AM, Washington time.

Respectfully submitted,
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